



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200

# Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
PO039984	MCM001-VU	3	1	2% 10 Net 30	88805K74	6063 Aluminum 90° Angle, 1/8" Wall Thickness, 1/2" High x 1/2" Wide				16	5/29/2018	16		S075936	Stock	5/29/2018	\$ 1.36 / ft	0		\$21.78	McMaster-Carr Supply Co.
		4			1095K41	Zerk				10		10		S075943	Stock	5/29/2018	\$ 0.35 / Ea	0		\$3.52	McMaster-Carr Supply Co.
		5			95229A460	Washer receive pcs				100		100		S075944	Stock	5/29/2018	\$ 0.07 / pcs	0		\$6.65	McMaster-Carr Supply Co.
		6			MDELINB0.750X3.000W	M Delrin Bar, White : MATERIAL: DELRIN II 150E OR ACETRON GP ACETAL receive ft				4		4		S075934	Stock	5/29/2018	\$ 24.16 / ft	0		\$96.64	McMaster-Carr Supply Co.
		7			1897A59	Handle						4		S075945	Stock	5/29/2018	\$ 4.56 / Ea	0		\$18.24	McMaster-Carr Supply Co.
		8			90107A029	Flat Washer				100		100		S075946	Stock	5/29/2018	\$ 0.08 / Ea	0		\$8.25	McMaster-Carr Supply Co.
		9			90128A265	Socket Head Cap Screw						100		S075947	Stock	5/29/2018	\$ 0.13 / Ea	0		\$13.22	McMaster-Carr Supply Co.
		10			9559K41	O-Ring				30		30		S075948	Stock	5/29/2018	\$ 1.27 / Ea	0		\$38.04	McMaster-Carr Supply Co.
		11			97524A032	Sealing Blind Rivet receive ea				200		200		S075949	Stock	5/29/2018	\$ 0.10 / Ea	0		\$19.64	McMaster-Carr Supply Co.
		12			98002A202	Binding Post				10		20		S075950	Stock	5/29/2018	\$ 0.42 / Ea	0		\$8.30	McMaster-Carr Supply Co.

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
		13			98380A473	Dowel Pin				20		25		S075951	Stock	5/29/2018	\$ 0.84 / Ea	0		\$20.93	McMaster-Carr Supply Co.
		14			98381A510	Pin				50		50		S075952	Stock	5/29/2018	\$ 0.21 / Ea	0		\$10.70	McMaster-Carr Supply Co.
		15			99908A102	Flange Locknut, Steel						50		S075953	Stock	5/29/2018	\$ 0.25 / Ea	0		\$12.63	McMaster-Carr Supply Co.
		16			C10-35	Cage Bumper Nut						50		S075954	Stock	5/29/2018	\$ 0.18 / pcs	0		\$9.14	McMaster-Carr Supply Co.
		17			MT-01-R0.750	Tool Steel Round Bar 0.750 dia. receive ft				18		18		S075935	Stock	5/29/2018	\$ 5.98 / ft	0		\$107.64	McMaster-Carr Supply Co.
		18			RBT18561-31	10X Magna-Lite				6		6		S075955	Stock	5/29/2018	\$ 25.29 / Ea	0		\$157.74	McMaster-Carr Supply Co.
		19			D2484P	Lock Nut				50		50		S075956	Inactive	5/29/2018	\$ 0.36 / pcs	0		\$18.15	McMaster-Carr Supply Co.
		20			12335A13	Edge Grip				10		10		S075957	Stock	5/29/2018	\$ 2.43 / Ea	0		\$24.30	McMaster-Carr Supply Co.
		21			8695K712	Polyurethane Rod 3/8 Dia., 48" Long, 80A (HARD)				4		4		S075958	Stock	5/29/2018	\$ 10.04 / ft	0		\$40.14	McMaster-Carr Supply Co.
<b>Total:</b>												<b>847</b>								<b>\$635.65</b>	



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO039984**

**Supplier:** MCM001-VU  
McMaster-Carr Supply Co,  
P.O. Box 7690  
Chicago, IL 60680-7690 USA  
Phone: 330 995 5500  
Fax: 330 995 9600

**PO No:** PO039984

**PO Date:** 5/24/18

**Due Date:** 5/29/18

**Purchase Order  
Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pymt Terms:** 2% 10 Net 30

**Freight Terms:**

**Special Comments:**

**E-MAILED**  
MAY 24 2018

## **Items**

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	MT-BRASS-C360-R1.500	2572T63 6 ft long	Brass C360 Round Bar 1.500"	Firmed	5/29/18	12 ft	0 ft	12 ft	\$46.55667/ft	\$558.68
2	8547K45	6 ft long	Tube ALT. P/N 8547K893 receive ea	Firmed	5/29/18	60 ft	0 ft	60 ft	\$34.25/ft	\$2,055.00
3	88805K74		6063 Aluminum 90° Angle, 1/8" Wall Thickness, 1/2" High x 1/2" Wide	Firmed	5/29/18	16 ft	0 ft	16 ft	\$1.36125/ft	\$21.78
4	1095K41	10/pk	Zerk	Firmed	5/29/18	10 Ea	0 Ea	10 Ea	\$0.352/Ea	\$3.52
5	95229A460	100/pk	Washer receive pcs	Firmed	5/29/18	100 pcs	0 pcs	100 pcs	\$0.0665/pcs	\$6.65
6	MDELRLNB0.750X3.000W	8739K45	M Delrin Bar, White : MATERIAL: DELRIN II 150E OR ACETRON GP ACETAL receive ft	Firmed	5/29/18	4 ft	0 ft	4 ft	\$24.16/ft	\$96.64
7	1897A59		Handle	Firmed	5/29/18	4 Ea	0 Ea	4 Ea	\$4.56/Ea	\$18.24
8	90107A029	100/pk	Flat Washer	Firmed	5/29/18	100 Ea	0 Ea	100 Ea	\$0.0825/Ea	\$8.25
9	90128A265	100/pk	Socket Head Cap Screw	Firmed	5/29/18	100 Ea	0 Ea	100 Ea	\$0.1322/Ea	\$13.22
10	9559K41	10/pk	O-Ring	Firmed	5/29/18	30 Ea	0 Ea	30 Ea	\$1.268/Ea	\$38.04
11	97524A032	100/pk	Sealing Blind Rivet receive ea	Firmed	5/29/18	200 Ea	0 Ea	200 Ea	\$0.0982/Ea	\$19.64
12	98002A202	10/pk	Binding Post	Firmed	5/29/18	10 Ea	0 Ea	10 Ea	\$0.415/Ea	\$4.15

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Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
13	98380A473	10/pk	Dowel Pin	Firmed	5/29/18	20 Ea	✓ 25x 0 Ea	20 Ea	\$0.837/Ea At 18/05/29	\$16.74
14	98381A510	50/pk	Pin	Firmed	5/29/18	50 Ea	✓ 50x 0 Ea	50 Ea	\$0.214/Ea At 18/05/29	\$10.70
15	99908A102	50/pk	Flande Locknut, Steel	Firmed	5/29/18	50 Ea	✓ 50x 0 Ea	50 Ea	\$0.2526/Ea At 18/05/29	\$12.63
16	C10-35	90576A118 50/pk	Cage Bumper Nut	Firmed	5/29/18	50 pcs	✓ 50x 0 pcs	50 pcs	\$0.1828/pcs At 18/05/29	\$9.14
17	MT-O1-R0.750	8893K19 6 FT long	Tool Steel Round Bar 0.750 dia. receive ft	Firmed	5/29/18	18 ft	✓ 18x 0 ft	18 ft	\$5.98/ft At 18/05/29	\$107.64
18	RBT18561-31	8485T13	10X Magna-Lite	Firmed	5/29/18	6 Ea	✓ 6x 0 Ea	6 Ea	\$26.29/Ea At 18/05/29	\$157.74
19	D2484P	91343A100 10/pk	Lock Nut	Firmed	5/29/18	50 pcs	✓ 50x 0 pcs	50 pcs	\$0.363/pcs At 18/05/29	\$18.15
20	12335A13	10 ft long	Edge Grip	Firmed	5/29/18	10 Ea	✓ 10x 0 Ea	10 Ea	\$2.43/Ea At 18/05/29	\$24.30
21	8695K712		Polyurethane Rod 3/8 Dia., 48" Long, 80A (HARD)	Firmed	5/29/18	4 ft	✓ 4ft 0 ft	4 ft	\$10.035/ft At 18/05/29	\$40.14
Grand Total:										\$3,240.99
Order Notes										
<p>Procurement Quality Clauses</p> <p>A005 RIGHT OF ENTRY</p> <p>A016 PERSONNEL QUALIFICATION</p> <p>A026 CERTIFICATION OF MATERIAL CONFORMANCE</p> <p>A032 DOCUMENT SPECIAL REQUIREMENTS</p> <p>A033 STATEMENT OF CONFORMITY/TEST RECORDS FOR NAS, AN and MS FASTENERS</p> <p>A040 NOTIFICATION OF QUALITY ESCAPE</p> <p>A041 QUALITY MANAGEMENT SYSTEM</p> <p>A042 DART NOTIFICATION BY SUPPLIER</p> <p>A043 RETENTION OF QUALITY DOCUMENTS</p> <p>A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM</p> <p>A049 SUPPLIER AWARENESS</p> <div></div>										
Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit <a href="http://www.dartaerospace.com">www.dartaerospace.com</a> for further explanation.										

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200 Aurora Industrial Pkwy  
Aurora OH 44202-8087  
330-995-5500  
cle.sales@mcmaster.com

Dart Aerospace Ltd  
1270 Aberdeen St  
Hawkesbury ON K6A 1K7  
Canada

Purchase Order  
**PO039984**

Order Placed By  
**Chantal Lavoie**

McMaster-Carr Number  
**4088649-03**

Page 1 of 2

05/24/2018

Line	Product	Ordered	Shipped
4	<b>1095K41</b> Zinc-Plated Steel Grease Fitting, Straight, 1/4"-28 SAE-LT Male, 35/64" Overall Length, Packs of 10	1 Pack	1
5	<b>95229A460</b> Cadmium-Plated Steel MIL. Spec. Washer for 5/16" Screw Size, NAS 1149-F0563P, Packs of 100	1 Pack	1
7	<b>1897A59</b> Oval Grip Pull Handle with Threaded Holes, Aluminum, 4-9/16" Center-to-Center Width	4 Each	4
8	<b>90107A029</b> 316 Stainless Steel Washer for 1/4" Screw Size, 0.281" ID, 0.625" OD, Packs of 100	1 Pack	1
9	<b>90128A265</b> Zinc-Plated Alloy Steel Socket Head Screw, M6 x 1 mm Thread, 25 mm Long, Packs of 100	1 Pack	1
10	<b>9559K41</b> Ultra-Chemical-Resistant Rigid PTFE O-Ring, 1/8 Fractional Width, Dash Number 219, Packs of 10	3 Packs	3
11	<b>97524A032</b> Sealing Blind Rivets, Aluminum, Domed Head, with Aluminum Mandrel, 1/8" Diameter, 0.425" Long, Packs of 100	2 Packs	2
12	<b>98002A202</b> Steel Binding Barrels and Screws, 10-24 Thread Size, for 3/8"-1/2" Material Thickness, Packs of 10	1 Pack	1
13	<b>98380A473</b> 416 Stainless Steel Dowel Pins, 1/8" Diameter, 3/4" Long, Packs of 25	1 Pack	1
14	<b>98381A510</b> Dowel Pin, Alloy Steel, 3/16" Diameter, 1" Long, Packs of 50	1 Pack	1
15	<b>99908A102</b> High-Strength Steel Nylon-Insert Flange Locknut, Class 10, Zinc Yellow-Chromate Plated, M8 x 1.25 mm Thread, Packs of 50	1 Pack	1
16	<b>90576A118</b> Medium-Strength Steel Nylon-Insert Locknut, Class 8, Zinc-Plated, M10 x 1.5 mm Thread, Packs of 50	1 Pack	1
18	<b>8485T13</b> Incandescent-Illuminated Magnifying Glass, 10x, 1-1/4" Long x 1-3/8" Wide Lens	6 Each	6
19	<b>91343A100</b> 316 Stainless Steel Serrated Flange Locknut, Super-Corrosion-Resistant, 1/4"-20 Thread Size, Packs of 10	5 Packs	5
20	<b>12335A13</b> Water- & Weather-Resistant Rubber Push-on Seal with Bulb on Top, Hollow, for 3/64"-1/16" Edge, 10' Long	10 Feet	10
21	<b>8695K712</b> Abrasion-Resistant Polyurethane Rubber Rod, 48" Long, 3/8" Diameter, 80A Durometer	1 Each	1

## Expected to ship

1	<b>2572T63</b> Ultra-Machinable 360 Brass Rod with Certification, 1-1/2" Diameter, 6 Feet Long	2 Each	2 May 29-30
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# Packing List

200 Aurora Industrial Pkwy  
Aurora OH 44202-8087  
330-995-5500  
cle.sales@mcmaster.com

Dart Aerospace Ltd  
1270 Aberdeen St  
Hawkesbury ON K6A 1K7  
Canada

Purchase Order  
**PO039984**

Order Placed By  
**Chantal Lavoie**

McMaster-Carr Number  
**4088649-03**

Page 2 of 2

05/24/2018

Line	Description	Ordered	Shipped
2	<b>8547K893</b> Tube Made From PTFE, 1" OD X 1/2" ID	<b>60</b> <b>Feet</b>	<b>60</b> May 31-Jun 7

## Notes about your shipment

The U.S. Department of Transportation regulates the shipping of line 18. By purchasing from McMaster-Carr Supply Company, you agree not to transport or permit others to transport purchased items except in accordance with U.S. law and any other applicable laws.



# McMASTER-CARR®

## Packing List

200 Aurora Industrial Pkwy  
Aurora OH 44202-8087  
330-995-5500  
cle.sales@mcmaster.com

Dart Aerospace Ltd  
1270 Aberdeen St  
Hawkesbury ON K6A 1K7  
Canada

Purchase Order  
**PO039984**

Order Placed By  
**Chantal Lavoie**

McMaster-Carr Number  
**4088649-01**

Page 1 of 1

05/24/2018

Line	Product	Ordered	Shipped
3	88805K74 Architectural 6063 Aluminum 90 Degree Angle, 1/8" Wall Thickness, 1/2" High x 1/2" Wide, 8 Feet Long	2 Each	2

### Expected to ship

1	2572T63 Ultra-Machinable 360 Brass Rod with Certification, 1-1/2" Diameter, 6 Feet Long	2 Each	2 May 29-30
2	8547K893 Tube Made From PTFE, 1" OD X 1/2" ID	60 Feet	60 May 31-Jun 7



# McMASTER-CARR®

200 Aurora Industrial Pkwy  
Aurora OH 44202-8087  
330-995-5500  
cle.sales@mcmaster.com

Dart Aerospace Ltd  
1270 Aberdeen St  
Hawkesbury ON K6A 1K7  
Canada

Purchase Order  
**PO039984**

Order Placed By  
**Chantal Lavoie**

McMaster-Carr Number  
**4088649-02**

## Packing List

Page 1 of 1

05/24/2018

Line	Product	Ordered	Shipped
6	<b>8739K45</b> White Delrin Acetal Resin Oversized Bar, 3/4" Thick, 3" Wide, 4' Length	4 Feet	<b>4</b>
17	<b>8893K19</b> Tight-Tolerance Multipurpose O1 Tool Steel Rod, 0.7500" Diameter, 6 Feet Long	3 Each	<b>3</b>

### Expected to ship

1	<b>2572T63</b> Ultra-Machinable 360 Brass Rod with Certification, 1-1/2" Diameter, 6 Feet Long	2 Each	2 May 29-30
2	<b>8547K893</b> Tube Made From PTFE, 1" OD X 1/2" ID	60 Feet	60 May 31-Jun 7



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-01-R0.750  
DATE: MAY 30 2018

PO / BATCH NO. 039984/5025935

MATERIAL CERT REC'D: yes  
QUANTITY RECEIVED: 18'  
QUANTITY INSPECTED: 18'  
QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750  
THICKNESS RECEIVED: 0.750  
SHEET SIZE ORDERED: N/A  
SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	Astm A681
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	Lot #039984 Part # 8893K19
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>		SIGNED OFF BY: _____	
DATE: <u>11 MAY 30 2018</u>		DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI O1 TOOL STEEL ROUND BAR  
SPECIFICATION: DIN 1.2510 or B.S. BO 1 or  
SAE J437 or SAE J438  
or UNS T31501 or ASTM A681  
PART NUMBER: MT-O1-R [D.DDD]  
WHERE "D.DDD" = DIAMETER IN INCHES  
EG. 5/8" ROUND BAR = MT-O1-R0.625

REV.	DESCRIPTION	DATE	BY	APPROVED
A	NEW ISSUE	17.08.09	VM	WM

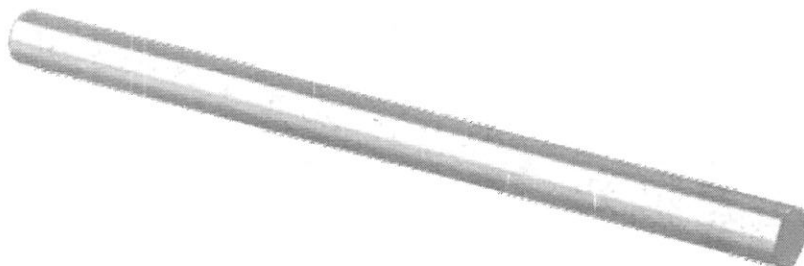
<b>DART</b> AEROSPACE	
HAWKSBURY, OREGON, OREGON	
TITLE <b>AISI O1 TOOL STEEL ROUND BAR</b>	
DWG NO.	REV
MT-O1-R	A
DESIGN BY: VM 09/09/2017	XXX 1 205 FRACTIONS ± 1/8
DRAWN BY: VM 08/31/2017	XX 1 21 ANGLES ± 1°
CHECKED: SAC 08/31/2017	1 DIMENSIONS ARE IN INCHES
MFG. APPR: DP 09/05/2017	2 UNLESS OTHERWISE SPECIFIED
CA APPR: PD 09/12/2017	3 SAE Y14.3M-2008 TOL PER
APPROVED: VM 09/12/2017	4 DIMENSIONS IN MILLIMETERS APPLY
DATE: 8/31/2017	SCALE: NTS WEIGHT N/A LBS
SHEET 1 OF 1	
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EN 17-149

# McMASTER-CARR®

## Tight-Tolerance Multipurpose O1 Tool Steel Rod 0.7500" Diameter

8893K19



Material	O1 Tool Steel
Cross Section Shape	Round
Construction	Solid
Appearance	Plain
Diameter	0.75"
Diameter Tolerance	-0.001" to 0.001"
Rating	Tight
Yield Strength	50,000 psi
Temper Rating	Softened (Annealed)
Hardness	Rockwell B90
Hardness Rating	Medium
Heat Treatable	Yes
Maximum Hardness after Heat Treatment	Rockwell C65
Mechanical Finish	Precision Ground
Temperature Range	Not Rated
Specifications Met	ASTM A681
Straightness Tolerance	Not Rated
Density	0.28 lbs./cu. in.
Coefficient of Thermal Expansion	$7.1 \times 10^{-6}$

Elongation	25%
Material Composition	
Iron	94.79-96.95%
Carbon	0.85-1.05%
Chromium	0.40-0.70%
Manganese	1.00-1.40%
Nitrogen	0.40-0.60%
Phosphorus	0-0.030%
Silicon	0-0.50%
Sulfur	0-0.030%
Tungsten	0.40-0.60%
Vanadium	0-0.30%
Length	1 ft., 3 ft., 6 ft.
Additional Specifications	Guidelines for Heat Treating Tool Steel
RoHS	Compliant

These precision-ground rods have a tight diameter tolerance. Commonly used for dies, punches, and gauges, O1 tool steel is an oil-hardening material that resists wear and abrasion.

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M Delrin B0.750X3.000

PO / BATCH NO: 039984/5075934

DATE: MAY 30 2018

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 4'  
 QUANTITY INSPECTED: 4'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750  
 THICKNESS RECEIVED: 0.750  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	Delrin Bar white Part# 82391045
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Part# 039984
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u>	SIGNED OFF BY: _____
DATE: <u>9-89 MAY 30 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED UP	APPROVED #	DRAWING NO. M-DELRIN-B	REV. A SHEET 1 OF 1
DATE 02.04.30		TITLE DELRIN BAR	SCALE NTS
A	02.04.30	NEW ISSUE	
AI	02.06.04	ADD "ACETRON GP ACETAL" AS OPTION	

PURCHASE MATERIAL:

DELRIN II ISOE OR ACETRON GP ACETAL

AI

del

PART NUMBER:

M-DELRIN-B | T.TTT | x | WW.WWW | WHERE T.TTT = THICKNESS (IN INCHES)  
THICK | WIDTH | WW.WWW = WIDTH (IN INCHES)

EG. 0.5" x 1.0" BAR = M-DELRIN-B 0.500 x 01.000

RELEASED  
02.05.06 #

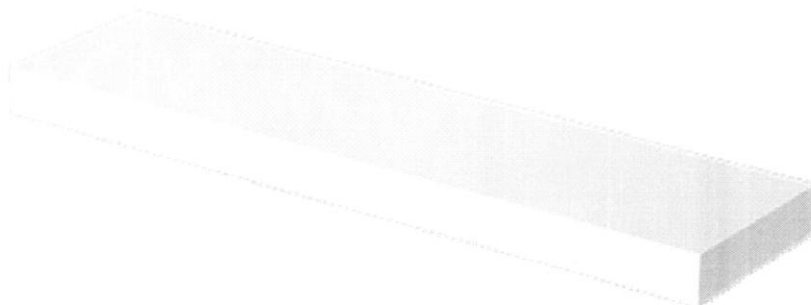
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White Delrin® Acetal Resin Oversized Bar  
3/4" Thick, 3" Wide

In stock  
\$24.16 per ft.  
8739K45



Material

Delrin®  
Acetal  
Plastic

Cross

Section

Rectangle

Shape

Construction

Solid

Texture

Smooth

Color

White

Clarity

Opaque

Thickness

3/4"

Thickness

0" to

Tolerance

+0.025"

Tolerance

Oversized

Rating

Width

3"

Width

0" to +1/4"

Tolerance

Length

1 ft., 2 ft.,  
3 ft., 4 ft.

Backing

Type

Plain

Hardness

Rockwell  
M90

Hardness

Rating

Hard

For Use

Outdoors

No

Temperature

Range

-20° to  
180° F

Impact

Strength

1.00  
ft.-lbs./in.

Impact

Strength

Rating

Good

Tensile Strength	9,000 psi
Tensile Strength Rating	Good
Specifications Met	ASTM D6100, Made of FDA Listed Material, NSF/ANSI Standard 51 for Food Contact, NSF/ANSI Standard 61 for Drinking Water
Density	0.051 lbs./cu. in.
Coefficient of Friction	0.20
Dielectric Strength	435 V/mil
Water Absorption	0.30%
Coefficient of Thermal Expansion	$8.5 \times 10^{-5}$ in./in./°F
RoHS	Compliant

These sheets, bars, and strips are made of Delrin<sup>®</sup> acetal resin, a wear-resistant material with a naturally slippery surface. Also known as acetal homopolymer, it resists moisture and has the ability to hold tight tolerances. It's often used for gears, bushings, and bearings.



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 88805K74 C6063 Aluminum

PO / BATCH NO.: 039984/5075936

DATE: MAY 30 2018

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 16  
 QUANTITY INSPECTED: 16  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W 1/8  
 THICKNESS RECEIVED: W 1/8  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	
CORROSION	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	Part # 88805K74
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	
PHOTO REQUIRED	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	PO # 039984
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="radio"/> N <input checked="" type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="radio"/> N <input checked="" type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

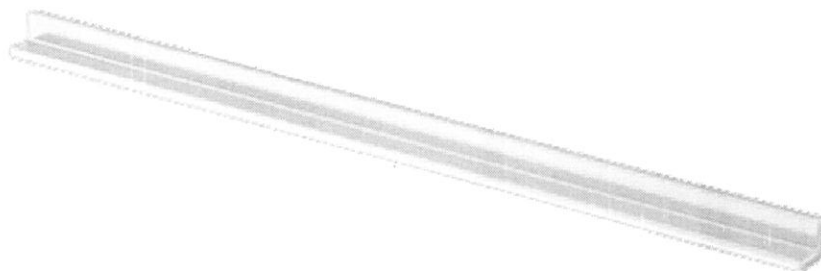
testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>9-89 MAY 30 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# McMASTER-CARR®

## Architectural 6063 Aluminum 90 Degree Angle 1/8" Wall Thickness, 1/2" High x 1/2" Wide



Material

6063  
Aluminum

Cross Section  
Shape

Corner Shape

Outside Square  
Inside Square

Leg Edge  
Shape Square

Construction Solid

Appearance Plain

Wall

Thickness

1/8"

Tolerance

Rating

Standard

Outside

Height 1/2"  
Height -0.014" to  
Tolerance 0.014"  
Width 1/2"  
Width -0.014" to  
Tolerance 0.014"

Inside

Height 0.38"  
Width 0.38"

Yield Strength 16,000 psi

Fabrication Heat Treated

Temper T5  
(Hardened)

Hardness Brinell 55

Hardness  
Rating Soft

Heat  
Treatable Yes

Temperature  
Range -320° to 212°  
F

Specifications  
Met ASTM B221

88805K74

Straightness Tolerance	0.013" per ft.
Magnetic Properties	Nonmagnetic
Density	0.1 lbs./cu. in.
Surface Resistivity	20 Ohm-Cir Mil/ft
Melting Point Temperature	1110° F
Modulus of Elasticity	10.0 ksi $\times 10^3$
Thermal Conductivity	1,420 Btu/hr. $\times$ in./sq. ft./° F @ 77° F
Elongation	11%
Material Composition	
Aluminum	97.5-99.35%
Chromium	0-0.1%
Copper	0-0.1%
Iron	0-0.35%
Magnesium	0.45-0.9%
Manganese	0-0.1%
Silicon	0.2-0.6%
Titanium	0-0.1%
Zinc	0-0.1%
Other	0-0.15%
Length Tolerance	-1" to 1"
Length	4 ft., 8 ft.
RoHS	Compliant

Commonly used outdoors as architectural trim, railings, and door frames, 6063 aluminum has better machinability than 3003. It is nonmagnetic and heat treatable.